

Situation of Agricultural Engineering in Thailand

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OUTLINE OF PRESENTATION

General Background

Status and Trends of Agri. Machinery

Government Policies

Government Organizations

Agricultural Engineering R&D

THAILAND

- TOTAL POPULATION ~ 64

MILLIONS

- FARMING POPULATION ~ 58 %

- TOTAL AREA ~ 51.3 mha.

- CULTIVATED AREA ~ 21.0 mha.

- FARM SIZE ~ 3.7 ha.

- IRRIGATED AREA ~ 24.9 %

TOTAL CULTIVATED AREA

- MAJOR CROPS – RICE, MAIZE,
SUGARCANE, SOYBEAN, CASSAVA,
RUBBER, FRUITS, OIL PALM

- 50.5 % TOTAL CULTIVATED LAND

Economic Performance 2005 and 2006

The economy expand
4.7% (2005)

The account deficit
1.8% of GDP (2005)

unemployment rate
4.5% (2005),
4.7% (2006)

the inflation

4.5% (2005),
4.7%

(2006)

PRESENT
AGRICULTURAL MECHANIZATION STATUS

LAND PREPARATION













PLANTING













Water Pump



Sprayer

THRESHING





HARVESTING







RICE COMBINE HAR



DRYING





Fluidized Bed Dryer





A blue motorized cart, likely a tuk-tuk or similar transport vehicle, is shown on a dirt road. The cart is filled with several people, including men, women, and children, some wearing hats. The background features a dirt road, green fields, and distant hills under a clear sky. The word "TRANSPORTATION" is overlaid in large, bold, 3D yellow and orange letters across the center of the image.

TRANSPORTATION





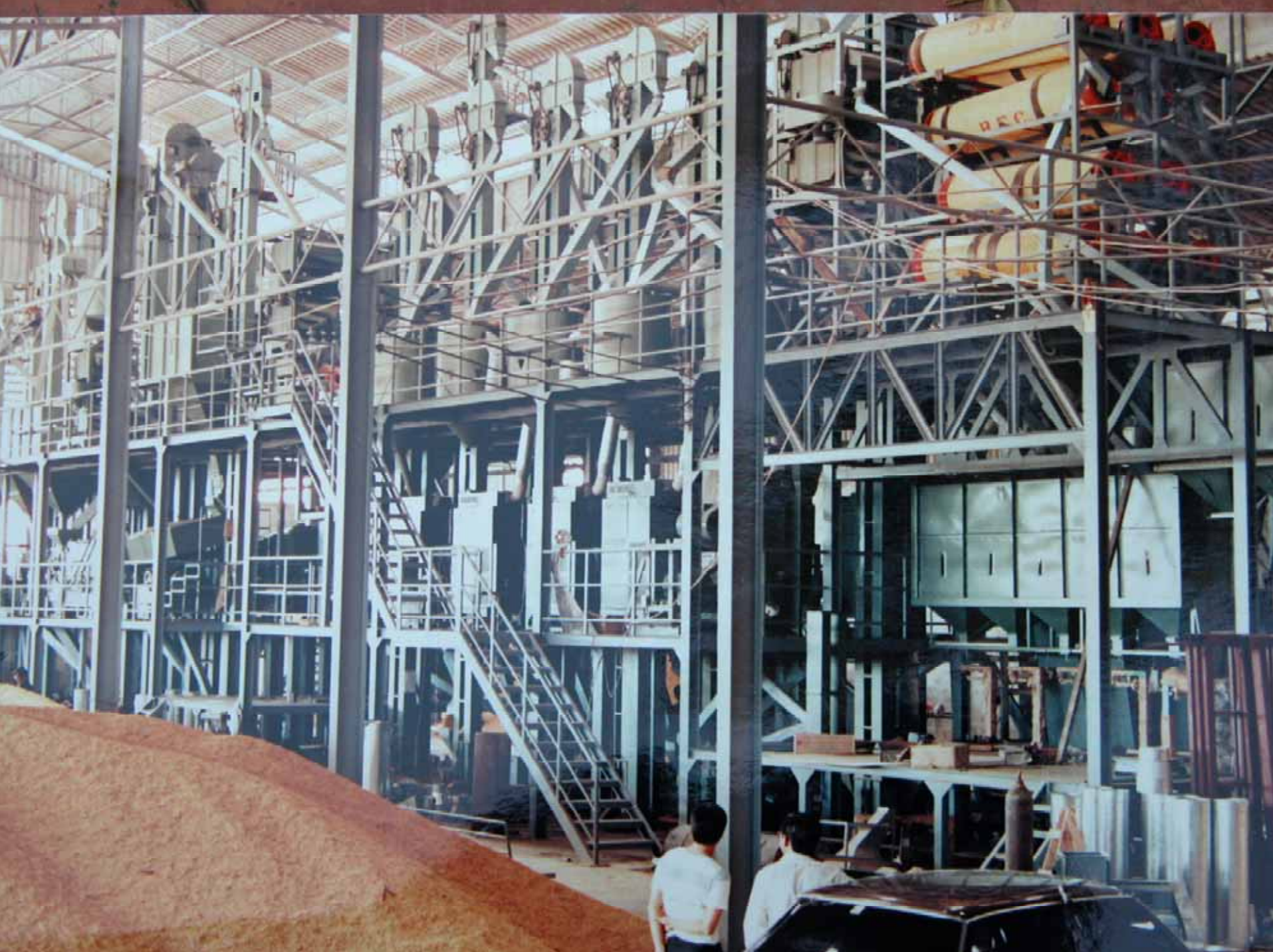


FOOD PROCESSING









THAI GOVERNMENT POLICY

Thailand started its first Economic and Social Development Plan in 1961.

The current plan is the Tenth Plan (2007 – 2011)
The Plan will focus on 'human' as center of development efforts. Three main elements are accentuated: sufficiency economic, sustainable development, long-term planning vision spanning the next 20 years to provide 'change management'.

The Government policies and strategies relate to agricultural engineering

Promote agricultural development based on the “New Theory” as an important alternative for small farmers; at the same time, expand opportunities for product development and improve product quality through the use of technology, management and access to markets;

Local Community Products will be supported so that they are recognized by consumers as quality products in line with their market potential, whether at the regional, national or export levels; this can be accomplished through the establishment of an integrated project management system that will improve technology and management as well as provide market support;



Small and Medium Enterprises (SMEs): make use of the public-private sector alliance to increase the effectiveness of, and thereby strengthen, all SMEs through science and technology and management; in addition, special importance will be give to those SMEs that make use of intellectual property;

Promote energy efficiency, energy saving, the development and use of alternative energy, the survey and development of domestic and international sources of energy-including the joint development areas with neighboring countries-the use clean energy, and appropriate price structure for energy and restructuring of the management of energy affairs by ensuring that there is a clear division between energy policy-making and regulation, and promoting long-term competition in the energy business as well as research and development of alternative energy.

Governmental Organizations

1. Agricultural Engineering Research Institute, Department of Agriculture, Ministry of Agriculture and Cooperatives is responsible for research and development on agricultural machinery, agricultural process and providing technologies as well as services to government and private agencies involves.

2. Post-harvest and Products Processing Research and Development Office,

Department of Agriculture

is responsible for conduct research, study and develop technology on post-harvest, processing, extraction of natural substances, and packaging and analysis, test and inspection of agricultural produce and products.

3. The National Bureau of Agricultural Commodity and Food Standards (ACFS), [Ministry of Agriculture and Cooperatives](#)

- 1. To set standards for primary agricultural, processed agricultural, and food products**
- 2. To supervise, enforce, and monitor food safety program.**
- 3. To permit certificate and accredit Certification Body.**
- 4. To coordinate and co-negotiate on non-tariff trade barrier issues as well as on international standardizations.**
- 5. To serve as a key information center for primary agricultural, processed agricultural and food products.**
- 6. To serve as a secretariat to the Board of National Agricultural Commodity and Food Standards.**
- 7. To serve in other capacities as requested by law or the cabinet, or the minister.**

4. Office of Agricultural Economics, [Ministry of Agriculture and Cooperatives](#) is responsible for collect data of agriculture and agricultural economic. Then, analyze data and report to government and public.

5. Farm Mechanization Sub-Division, Department of Agricultural Extension is undertaking about extension activities.

6. Thai Industrial Standard Institute (TISI), [Ministry of Industry](#) is responsible for standardization of agricultural machinery.

7. Thai International Cooperation Program (TICP), [Ministry of Foreign Affairs](#)

TICP, formerly DTEC, has been responsible for the technical cooperation which Thailand provides to other developing countries, as well as mutual assistance programs organized among developing countries. Many of these activities are funded entirely by the Thai government. However, some are paid for by foreign governments.

8. Bank of Agriculture and Agricultural Cooperatives, [Ministry of Finance](#)

is responsible for loan extension to agricultural cooperatives and farmer.

9. Universities and colleges of Agriculture are research organization of agricultural.

Private Sector

Thai manufacturers and distributors have been the major force behind the rapid mechanization development.

RESEARCH AND DEVELOPMENT





**Immature Durian
Fruit Grading
Machine**

**Signal
Analyzer**



A PROTOTYPE OF DEHYDRATED LONGAN FRUIT MOISTURE METER



Needle type sensor



Display

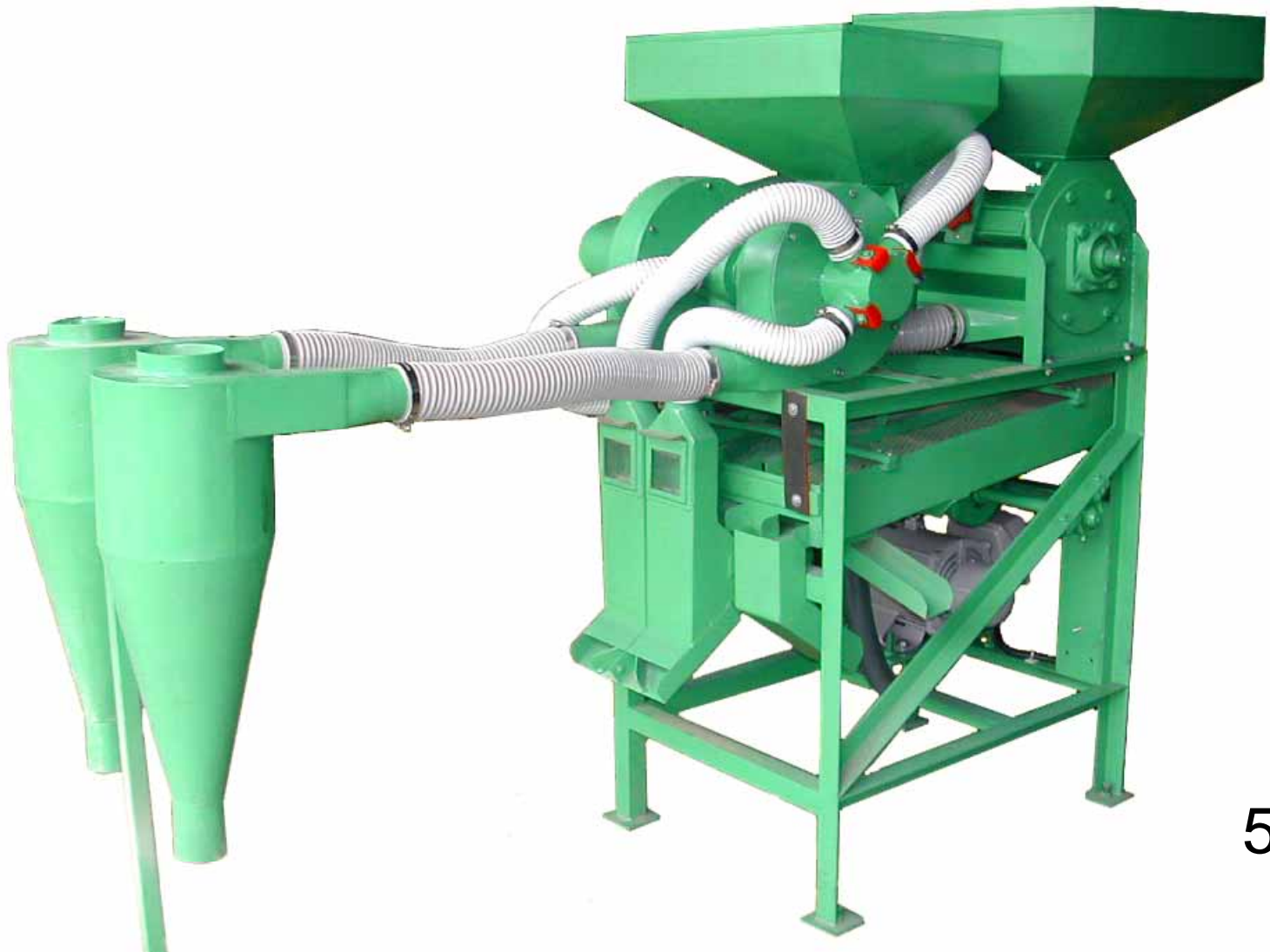


Tray Dryer









ลมร้อน



เตาเผาแกลบ
แบบไซโคลนคู่

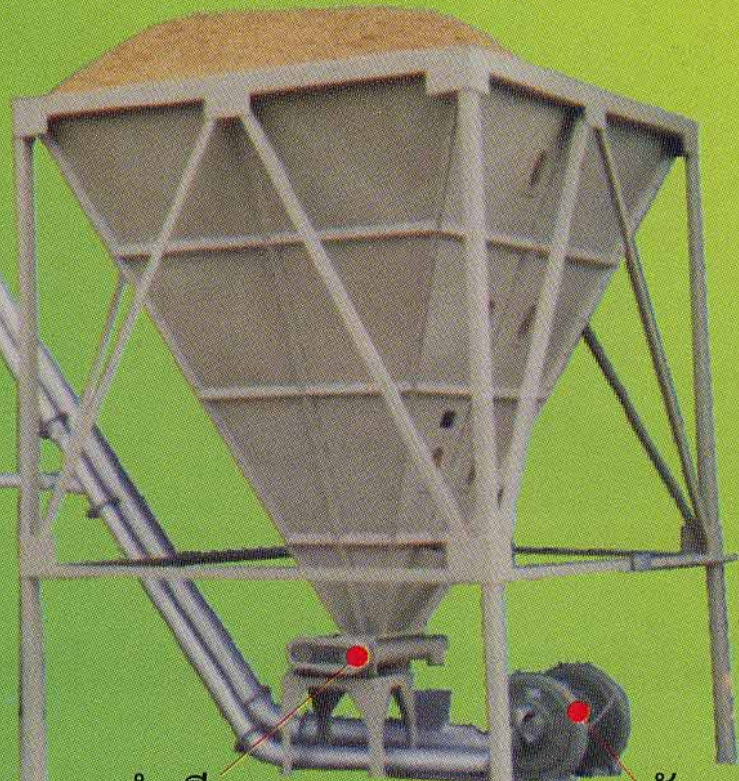
ท่อส่งอากาศ

ท่อส่งเชื้อเพลิง

ถังแกลบ



ขี้เถ้า



ชุดควบคุมระบบ
การทำงาน



R&D aims

1. Collaboration among researchers from government sectors, educational institutes and manufacturers are important aspects to ensure that the research works will be continuously implemented to marketing production.

2. Cost reduction in manufacturing by using standard part among different manufacturers. Standard parts will be benefit to not only cost reduction for manufactures but also more convenient for farmers to buy spare parts.

3. Production value-added by improving machinery for post-harvest technology and processing.

4. Researches under government fund are grouped into project. Each project must be evaluated by the National Research Council and researchers must propose the project concerning government policy.

สวัสดี

Thank you